

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appellants:	Michael R. Pallesen, Vilas M. Athavale, Sridhar Gunapu		
Assignee:	InsWeb Corporation		
Title:	System And Method For Flexible Insurance Rating Calculation		
Application No.:	09/521,005	Filing Date:	March 7, 2000
Examiner:	Lena Najarian	Group Art Unit:	3626
Docket No.:	INS0006US	Confirmation No.:	1151

Austin, Texas
January 25, 2010

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REPLY BRIEF

Dear Sir:

This Reply Brief is timely submitted within the two-month period following the Examiner's Answer that was mailed on November 25, 2009. The two-month period expires on January 25, 2010. Appellants maintain the positions set forth in the Appeal Brief dated September 23, 2009 and further respond to the Examiner's new remarks, as presented below.

I. REAL PARTY IN INTEREST

The real party in interest on this appeal is InsWeb Corporation, the assignee of record.

II. RELATED APPEALS AND INTERFERENCES

This appeal is related to Appeal No. 2005-0611, which appealed a prior rejection in the present application. A copy of the decision on Appeal No. 2005-0611 is included in the Related Proceeding Appendix submitted with this Appeal Brief.

III. STATUS OF CLAIMS

Claims 1-12, 14-24, and 26-37 are pending in the application.

Claims 1-12, 14-24, and 26-37 stand rejected.

Claims 13 and 25 have been cancelled.

The Appellants appeal the rejection of claims 1-12, 14-24, and 26-37.

IV. STATUS OF AMENDMENTS

No amendments were filed subsequent to the final rejection of July 18, 2008.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Claim 1 is directed to a product rate calculation system (e.g., as shown in FIG. 1) that includes a processor and a computer readable medium, which is at least one of an electronic storage medium, a magnetic storage medium, and an optical storage medium, as described, for example, on lines 24-30 of page 3 and lines 13-15 of page 5. The product rate calculation system includes a database interface (e.g., database interface 140 of FIG. 1) operable to request and receive (e.g., as described on lines 28-30 of page 7) product rate information from a database (e.g., rate information database 170 of FIG. 1). The product rate information includes at least one product rate expression (e.g., as described in lines 24-26 of page 7). The product rate calculation system also includes a product rate information cache (e.g., cache 160 of FIG. 1) that stores the product rate information received from the database (e.g., as described in lines 28-30 of page 7).

The product rate calculation system additionally includes an expression evaluation routine (e.g., rate evaluation routine 150) operable to parse a product rate expression stored in the product rate information cache into at least one token, as described, for example, in lines 24-26 of page 10 and line 3 of page 11 through line 6 of page 12. The expression evaluation routine is operable to evaluate the at least one token to determine a product rate, as described, for example, in lines 11-15 of page 8 and FIG. 3 and its accompanying description.

The product rate calculation system also includes a client interface (e.g., client interface 130 of FIG. 1) operable to provide the product rate to a client application (e.g., rating engine client 110) running on a computer system (e.g., product server 100 of FIG. 1), as described, for example, in lines 11-14 of page 7. At least one of the database interface, the product rate information cache, the expression evaluation routine and the client interface is encoded in the computer readable medium as instructions executable on the processor, as described, for example, in lines 23-30 of page 3.

Claim 2 further specifies that the product rate information of claim 1 includes at least one multi-dimensional table (e.g., table 441 of FIG. 4) of data, as described, for example, in lines 18-19 of page 13.

Claim 3 specifies that at least one dimension of the one multi-dimensional table introduced in claim 2 is indexed (e.g., as described in lines 6-7 and 16-23 of page 13) by consumer information provided to the client interface (e.g., as described in lines 14-18 and 23-25 of page 6).

Claim 8 specifies that the expression evaluation routine of claim 1 uses consumer information provided to the client interface (e.g., as described in lines 14-18 and 23-25 of page 6) to evaluate the token (e.g., as described in lines 8-12 of page 12).

Claim 15 sets forth a method of calculating a product rate. The method involves loading (e.g., operation 310 of FIG. 3, described in lines 19-21 of page 10) product rate information including at least one product rate expression from a database (e.g., rate information database 170 of FIG. 1). The method also stores (e.g., operation 320 of FIG. 3, described in lines 19-21 of page 10) the product rate information loaded from the database in a cache (e.g., cache 160 of FIG. 1). The method receives (e.g., operation 330 of FIG. 3, described in line 26 of page 10) a request for a product rate from a client application (e.g., rating engine client 110 of FIG. 1) running on a computer system (e.g., product server 100 of FIG. 1).

At least one product rate expression stored in the cache is parsed into at least one token (e.g., operation 350 of FIG. 3, described in lines 1-2 of page 11). At least one token is evaluated (e.g., operation 350, described in lines 16-21 of page 12) to determine the product rate. The product rate is transmitted (e.g., operation 380 of FIG. 3) to the client application running on the computer system.

Dependent claim 18 specifies that the act of receiving a request further involves receiving consumer information (e.g., as described in line 10 of page 12) from the client application running on the computer system. The consumer information is used to evaluate the at least one token to determine the product rate (e.g., as described in line 10 of page 12).

Claim 26 sets for a system for calculating product rates. The system includes a processor (e.g., within rating engine server 120 of FIG. 1, as described in lines 23-20 of page 3) configured to request and receive product rate information from a database (e.g., rate information database 170 of FIG. 1). The product rate information includes at least one product rate expression (e.g., as described in lines 24-26 of page 7). The system also

includes a memory cache (e.g., cache 160 of FIG. 1) configured to store the product rate information, including the at least one product rate expression, received from the database. The processor is further configured to evaluate the at least one product rate expression by parsing the at least one product rate expression into at least one token (e.g., as described in lines 24-26 of page 10 and line 3 of page 11 through line 6 of page 12) and evaluating the at least one token to determine a product rate (e.g., as described in lines 11-15 of page 8 and FIG. 3 and its accompanying description).

Claim 27 sets forth a computer readable medium that includes program instructions executable on a processor for calculating a product rate. The computer readable medium is one of an electronic storage medium, a magnetic storage medium, an optical storage medium, and a communications medium conveying signals encoding the instructions. The program instructions are operable to load (e.g., by performing operation 310 of FIG. 3, described in lines 19-21 of page 10) product rate information including at least one product rate expression from a database (e.g., rate information database 170 of FIG. 1).

The program instructions are also operable to store (e.g., by performing operation 320 of FIG. 3, described in lines 19-21 of page 10) the product rate information loaded from the database in a cache (e.g., cache 160 of FIG. 1). The program instructions are operable to receive (e.g., by performing operation 330 of FIG. 3, described in line 26 of page 10) a request for a product rate from a client application (e.g., rating engine client 110 of FIG. 1) running on a computer system (e.g., product server 100 of FIG. 1).

The program instructions are operable to parse at least one product rate expression stored in the cache into at least one token (e.g., by performing operation 350 of FIG. 3, described in lines 1-2 of page 11). The program instructions are operable to evaluate at least one token (e.g., by performing operation 350, described in lines 16-21 of page 12) to determine the product rate. The program instructions are operable to transmit the product rate (e.g., by performing operation 380 of FIG. 3) to the client application running on the computer system.

Dependent claim 30 specifies that, for the program instructions of claim 27, being operable to receive a request further involves being operable to receive consumer information (e.g., as described in line 10 of page 12) from the client application running

on the computer system. The consumer information is used to evaluate at least one token to determine the product rate (e.g., as described in line 10 of page 12).

Dependent claim 37 specifies that in the product rate calculation system of claim 1, the database interface is further configured to load a new version of the product rate information into the product rate information cache, in response to the product rate information being modified (e.g., as described in lines 17-19 of page 10). Loading the new version of the product rate information into the product rate information cache reprograms the expression evaluation routine to use a new product rate expression when determining the product rate (e.g., as described in line 16 of page 10 through line 2 of page 11).

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

- A. Whether claims 1-12, 14-24, and 26-36 are patentable under 35 U.S.C. §103(a) over Appellant's Background of the Invention (pages 1-2 of Appellants' originally filed specification) in view of Kennedy (USPN 5,787,453) ("Kennedy") and further in view of Chlan et al. (USPN 6,385,642) ("Chlan").
- B. Whether claim 37 is patentable under 35 U.S.C. §103(a) over Appellant's Background of the Invention (pages 1-2 of Appellants' originally filed specification) in view of Kennedy (USPN 5,787,453) ("Kennedy") and further in view of Chlan et al. (USPN 6,385,642) ("Chlan") and Fenton et al. (USPPN 2006/0271414) ("Fenton").

VII. ARGUMENT

A. Claims 1-12, 14-24, and 26-37 are patentable under 35 U.S.C. §103(a)

1. Claim 1

Claim 1 recites, in part: a database interface operable to request and receive product rate information from a database, the product rate information including at least one product rate expression; a product rate information cache storing the product rate information received from the database; [and] an expression evaluation routine operable to parse a product rate expression stored in the product rate information cache into at least one token, and operable to evaluate the at least one token to determine a product rate.

The cited art fails to teach or suggest the product rate information cache of claim 1. As noted on page 4 of the Office Action mailed September 20, 2007 (hereinafter referred to as “Office Action,” and which is incorporated into the Final Office Action mailed July 18, 2008, which is hereinafter referred to as “Final Office Action”), neither Appellant’s Background nor Kennedy teach or suggest this feature. Instead, the Examiner relies upon Chlan to teach this feature. However, Chlan does not teach or suggest a product rate information cache that stores product rate information, which includes a product rate expression. Instead, Chlan describes a cache for storing information received from a user (e.g., the ‘command line information’ in col. 6 of Chlan) as well as for storing information received from a data source and used to manage a session (e.g., the session ID, a valid user indication, available options, graphical style indication, results of previous processing, and the like, as described beginning at line 30 of col. 6 of Chlan). None of this information is product rate information that includes a product rate expression.

Furthermore, nothing in the cited portions of Chlan teaches or suggests caching product rate information like that recited in claim 1. The information stored in Chlan’s cache appears to all be static information, such as results of previous processing and session IDs. Thus, Chlan does not teach or suggest caching items that would need to be reevaluated, such as the expressions included in the product rate information described in claim 1. None of the other references teach or suggest caching such expressions, either.

Accordingly, the cited art fails to teach or suggest the product rate information cache of claim 1.

In response to the above arguments, page 5 of the Final Office Action and page 14 of the Examiner's Answer state that "one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references." However, the rejection does not explain how the combination teaches the cache of claim 1 and only relies upon a single reference to teach this feature. While the rejection notes that Appellant's Background teaches product rate expressions, the rejection fails to explain how the mere existence of product rate expressions, alone or in combination with any of the other references, teaches or suggests the product rate information cache of claim 1. Merely having product rate expressions, which Appellant's Background describes as being hard coded into an application, does not teach or suggest (or even provide any need for) a product rate information cache. Similarly, merely teaching the caching of completely unrelated data in unrelated circumstances in the manner suggested by Chlan, whether considered alone or in combination with the other references, fails to teach or suggest such a product rate information cache.

Thus, the cited art fails to teach a cache configured in the manner of the cache of claim 1 (i.e., to store the product rate information received from the database). Instead, the cited art teaches, at best, a cache for storing static information received from a user or data source (Chlan) and the existence of mathematical expressions that are hard coded into an application (Appellant's Background). Thus, in combination, the cited art does not teach or suggest the cache of claim 1.

Additionally with respect to claim 1, the cited art fails to teach or suggest an interface operable to request product rate information, which includes a product rate expression, from a database. The Examiner relies on Appellant's Background to teach an insurance product application that is encoded with product rate expressions (Office Action, p. 2) and Kennedy to teach a database interface (Office Action, p. 3). The Examiner suggests that it would have been obvious to incorporate Kennedy's invention into the insurance product application described in the background section of Appellants' application. Office Action, pages 3-4.

Kennedy's invention is a programming system that allows human users to more easily program complex calculations (none of which involve product rate expressions of the type recited in claim 1) that use the contents of SQL databases. Kennedy, Technical Field and Disclosure of the Invention. Nothing in Kennedy teaches or suggests that such a programming system --which is set up for people, not applications, to use-- could be incorporated into an insurance product application like the one described in Appellant's Background, nor does modification of the insurance product application to include Kennedy's programming system seem possible. Furthermore, it does not appear that the "applications" described in the cited portions of Kennedy can execute outside of Kennedy's programming system, nor does Kennedy teach or suggest attempting to use the applications in that manner. Similarly, Kennedy provides no teachings or suggestions to incorporate those applications generated by Kennedy's programming system into other applications, like the insurance product application of claim 1. Accordingly, the art does not appear capable of being modified in the manner suggested by the Examiner.

In response to the above arguments, page 14 of the Examiner's Answer merely states: "the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." No further explanation of how these general principles apply to the present rejection is provided. As such, the Appellants respectfully note that "rejections on obviousness cannot be sustained with mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336 (Fed. Cir. 2006).

Furthermore, none of the references cited by the Examiner teach or suggest storing product rate expressions in a database, nor do they suggest an interface for receiving such product rate expressions from a database. Kennedy does not teach or suggest anything about product rate expressions, let alone storing product rate expressions in a database. Similarly, Appellant's Background does not teach or suggest storing product rate expressions in a database. Instead, Appellant's Background explicitly

teaches encoding such expressions into an insurance product application. Since neither reference teaches that such expressions are stored in a database, the references clearly fail to teach or suggest an interface for receiving such expressions from a database.

In response to the above arguments, page 5 of the Final Office Action and page 13 of the Examiner's Answer state that "a form of 'product rate expression' is disclosed" in Appellant's Background. However, the mere existence of product rate expressions and databases does not teach or suggest that such product rate expressions are stored in a database. Similarly, the mere existence of product rate expressions and databases fails to teach or suggest an interface for receiving such expressions from a database.

For at least the foregoing reasons, the cited art fails to teach or suggest claim 1. Claims 2-12 and 14, which depend from claim 1, are patentable over the cited art for at least these reasons as well. Claims 15-24 and 26-36 are patentable over the cited art for similar reasons.

2. Claim 2

Further with respect to claim 2, the cited art fails to teach or suggest that "the product rate information includes at least one multi-dimensional table of data." The Examiner relies upon Appellant's Background to teach this feature. However, Appellant's Background merely refers to "lookup tables." Nothing in Appellant's Background teaches or suggests anything about the dimensions of such tables, and thus there is clearly no suggestion or teaching that the lookup tables are multi-dimensional tables.

On page 15 of the Examiner's Answer, the Examiner submits that "Appellant acknowledges that Kennedy teaches a database having a number of dimensions." However, Kennedy is not relied upon to teach this feature of claim 2 (instead, Kennedy is relied upon to teach the features of claim 3). Furthermore, even if Kennedy were relied upon to teach this feature, Kennedy's SQL database having a number of dimensions does not teach or suggest product rate information that includes at least one multi-dimensional table for at least the reason that tables do not appear to be the same as databases (e.g., page 7 of Appellant's specification describes examples of information, such as n-dimensional tables, that can be stored in a database) and that Kennedy, alone or in

combination with the other cited art, fails to teach or suggest that product rate information include such multi-dimensional tables.

3. Claim 3

Further with respect to claim 3, the cited art fails to teach or suggest that at least one dimension of the at least one multi-dimensional table is indexed by consumer information provided to the client interface. The Examiner cites Kennedy as teaching an SQL database having a number of dimensions; however, none of these dimensions appear to be indexed by consumer information provided to a client interface. Instead, Kennedy merely states that the dimensions can include an hours dimension, an employees dimension, and a project dimension, as well as a timespan dimension. The mere fact that Kennedy teaches a SQL database having multiple dimensions neither teaches nor suggests the indexing feature described in claim 3.

Furthermore, there is no teaching or suggestion to combine Kennedy's multidimensional SQL database (relied upon to teach the multi-dimensional table of claim 3) with the lookup tables of Appellant's Background (relied upon to teach the multi-dimensional table of claim 2). The Examiner suggests that the motivation would be "enabling the user to efficiently access and analyze data stored in the database" (Office Action, p. 5). However, nothing in Appellant's Background suggests that the lookup tables are stored in a database. Furthermore, nothing in Kennedy suggests that the use of a multidimensional SQL table would make the access and analysis of the lookup tables in Appellant's Background more efficient.

Finally, it does not appear that the dimensions (e.g., hours, employees, projects, or timespan) provided by Kennedy's multidimensional SQL database correspond to dimensions that would be needed to index into a rating factors lookup table. Accordingly, it does not appear that the references could be combined in the manner suggested.

In response to the above arguments, page 15 of the Examiner's Answer acknowledges that Kennedy does not expressly teach the specific data recited in claim 3. The Examiner's then states that "these differences are found only in the non-functional descriptive material." The Examiner appears to imply that certain parts of the claim may

be ignored if those portions of the claim describe what is alleged to be non-functional descriptive material, based on the reasoning of *In re Gulack* and *In re Lowry*. However, these cases provide guidance as to whether a claim recites statutory subject matter and do not state that entire sections of a claim can be disregarded. For example, *In re Gulack* goes on to note that “USPTO personnel must consider all claim limitations when determining patentability of an invention over the prior art.” See e.g., *In re Gulack*, 703 F.2d 1381, 1385, 217 USPQ 401, 403-04 (Fed. Cir. 1983), as cited in MPEP § 2106.01. Furthermore, the features recited in these claims are data structures that qualify as functional description material. See e.g., MPEP §2106.01. As such, these features cannot be ignored when evaluating the patentability of these claims.

4. Claim 8

Further with respect to claim 8, the cited art fails to teach or suggest an expression evaluation routine that uses consumer information provided to the client interface to evaluate the at least one token. In the cited portions of Kennedy, which is the only reference relied upon to teach this feature, evaluation of tokens is based upon values in the formula group libraries stored in the SQL database, not upon information provided to a client interface. Kennedy, col. 8. Thus, the cited art fails to teach or suggest this feature of claim 8. Similarly features of claims 18 and 30 are also not taught by the cited art.

Page 15 of the Examiner’s Answer appears to be classifying the above features of the claim as non-functional descriptive material. However, these features are clearly data structures tied to the operations and structures recited in the claims. Accordingly, these claim features should not be ignored when considering the patentability of the claims.

B. Claim 37 is patentable under 35 U.S.C. §103(a)

Claim 37 is patentable over the cited art for at least the foregoing reasons set forth above with respect to claim 1. Furthermore, the cited art fails to teach or suggest that loading the new version of the product rate information into the product rate information cache reprograms the expression evaluation routine to use a new product rate expression when determining the product rate.

The Examiner relies upon Fenton to teach this feature (Final Office Action, page 3); however, the cited sections of Fenton merely describe the criteria that are used to evaluate information a user supplies in an insurance application, and that the user may be given an opportunity to resubmit the application. Fenton, paragraphs 51-56. The user's application does not appear to include any new product rate expressions or other product rate information that could reprogram an expression evaluation routine to use a new product rate expression. Accordingly, allowing users to resubmit their applications appears to only allow newly submitted information to be reevaluated against the same criteria in the same manner.

Paragraph 68 of Fenton, which is also cited as teaching this feature of claim 37, merely describes how a table called "tblRate" is used to calculate a multiplier for use in calculating premiums. Again, nothing in the description of this table teaches or suggests that a rate evaluation routine is reprogrammed in any way; instead, it teaches how the table can be used to obtain the appropriate multiplier, based upon various factors that would tend to affect the risk borne by the insurer.

In response to these arguments, page 16 of the Examiner's Answer states that the Examiner's broadest reasonable interpretation of reprogramming the expression evaluation routine would include the modification of criteria used in the calculations, citing paragraphs 35 and 67-68 of Fenton. However, merely modifying the criteria neither teaches nor suggests loading the new version of such criteria into a product rate information cache. As such, even if Fenton does teach modifying criteria, Fenton still fails to teach or suggest the specific features of claim 37.

For at least these reasons, claim 37 is further patentable over the cited art.

CONCLUSION

The Appellants respectfully submit that claims 1-12, 14-24, and 26-37 are allowable over the cited references for at least the above-stated reasons. The Appellants respectfully request that the Board reverse the rejections of these claims.

Respectfully submitted,

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VIII. CLAIMS APPENDIX

1. (Previously Presented) A product rate calculation system comprising:
a processor;
computer readable medium, wherein the computer readable medium is at least one
of an electronic storage medium, a magnetic storage medium, and an
optical storage medium;
a database interface operable to request and receive product rate information from
a database, the product rate information including at least one product rate
expression;
a product rate information cache storing the product rate information received
from the database;
an expression evaluation routine operable to parse a product rate expression
stored in the product rate information cache into at least one token, and
operable to evaluate the at least one token to determine a product rate; and
a client interface operable to provide the product rate to a client application
running on a computer system, wherein at least one of the database
interface, the product rate information cache, the expression evaluation
routine and the client interface is encoded in the computer readable
medium as instructions executable on the processor.
2. (Original) The product rate calculation system of claim 1 wherein the product
rate information includes at least one multi-dimensional table of data.
3. (Original) The product rate calculation system of claim 2 wherein at least one
dimension of the at least one multi-dimensional table is indexed by consumer information
provided to the client interface.
4. (Original) The product rate calculation system of claim 1 wherein the at least
one token is a plurality of tokens, at least one of the plurality of tokens being an operand,
and at least one other of the plurality of tokens being an operator.

5. (Original) The product rate calculation system of claim 4 wherein the operand is one of a constant numeric value, a variable, a logic value, a function, and a string; and wherein the operator is one of a numeric operator and a logic operator.

6. (Original) The product rate calculation system of claim 4 wherein the operand and the operator are arranged in the product rate expression following one of post-fix, pre-fix, and in-fix notation.

7. (Original) The product rate calculation system of claim 1 wherein product rate information is insurance product rate information.

8. (Original) The product rate calculation system of claim 1 wherein the expression evaluation routine uses consumer information provided to the client interface to evaluate the at least one token.

9. (Original) The product rate calculation system of claim 1 further comprising a client application running on a computer system and being configured to:
provide product information, including the product rate, to a user;
provide consumer information to the client interface; and
receive the product rate.

10. (Original) The product rate calculation system of claim 9 wherein the product information is product information for at least one of home insurance, life insurance, health insurance, automobile insurance, and renter's insurance.

11. (Original) The product rate calculation system of claim 9 wherein the client application running on a computer system is a web server application.

12. (Original) The product rate calculation system of claim 11 further comprising a web-client computer system, the computer system and the web-client computer system being coupled via a network.

13. Cancelled.

14. (Original) The product rate calculation system of claim 1 further comprising a database operable to receive a product rate information request from the database interface and provide product rate information to the database interface, the database including at least one of the product rate expression, a multi-dimensional table of data, and a numeric value stored as a database record.

15. (Previously Presented) A method of calculating a product rate comprising:
loading product rate information including at least one product rate expression from a database;
storing the product rate information loaded from the database in a cache;
receiving a request for a product rate from a client application running on a computer system;
parsing the at least one product rate expression stored in the cache into at least one token;
evaluating the at least one token to determine the product rate; and
transmitting the product rate to the client application running on the computer system.

16. (Original) The method of claim 15 wherein the product rate information includes at least one of a multi-dimensional table of data and a numeric value.

17. (Original) The method of claim 15 wherein the product rate information is stored as a plurality of records in the database.

18. (Original) The method of claim 15 wherein the receiving a request further comprises receiving consumer information from the client application running on the computer system, the consumer information being used to evaluate the at least one token to determine the product rate.

19. (Original) The method of claim 15 wherein the product rate information is insurance product rate information.

20. (Original) The method of claim 15 wherein the loading and storing are performed once, and wherein the receiving, parsing, evaluating, and transmitting are performed a plurality of times.

21. (Original) The method of claim 15 wherein the at least one token is a plurality of tokens, at least one of the plurality of tokens being an operand, and at least one other of the plurality of tokens being an operator.

22. (Original) The method of claim 21 wherein the operand is one of a constant numeric value, a variable, a logic value, a function, and a string; and wherein the operator is one of a numeric operator and a logic operator.

23. (Original) The method of claim 21 wherein the operand and the operator are arranged in the product rate expression following one of post-fix, pre-fix, and in-fix notation.

24. (Original) The method of claim 15 wherein the evaluating the at least one token to determine the product rate further comprises at least one of:
performing a mathematical operation;
performing a logical operation; and
retrieving data from a multi-dimensional table of data stored in the cache.

25. Cancelled.

26. (Previously Presented) A system for calculating product rates comprising:
a processor configured to request and receive product rate information from a database, the product rate information including at least one product rate expression; and

a memory cache configured to store the product rate information, including the at least one product rate expression, received from the database; the processor being further configured to evaluate the at least one product rate expression by parsing the at least one product rate expression into at least one token and evaluating the at least one token to determine a product rate.

27. (Previously Presented) A computer readable medium comprising program instructions executable on a processor for calculating a product rate, the computer readable medium being one of an electronic storage medium, a magnetic storage medium, an optical storage medium, and a communications medium conveying signals encoding the instructions, wherein the program instructions are operable to implement each of:

- loading product rate information including at least one product rate expression from a database;
- storing the product rate information loaded from the database in a cache;
- receiving a request for a product rate from a client application running on a computer system;
- parsing the at least one product rate expression stored in the cache into at least one token;
- evaluating the at least one token to determine the product rate; and
- transmitting the product rate to the client application running on the computer system.

28. (Previously Presented) The computer readable medium of claim 27 wherein the product rate information includes at least one of a multi-dimensional table of data and a numeric value.

29. (Previously Presented) The computer readable medium of claim 27 wherein the product rate information is stored as a plurality of records in the database.

30. (Previously Presented) The computer readable medium of claim 27 wherein the receiving a request further comprises receiving consumer information from the client application running on the computer system, the consumer information being used to evaluate the at least one token to determine the product rate.

31. (Previously Presented) The computer readable medium of claim 27 wherein the product rate information is insurance product rate information.

32. (Previously Presented) The computer readable medium of claim 27 wherein the loading and storing are performed once, and wherein the receiving, parsing, evaluating, and transmitting are performed a plurality of times.

33. (Previously Presented) The computer readable medium of claim 27 wherein the at least one token is a plurality of tokens, at least one of the plurality of tokens being an operand, and at least one other of the plurality of tokens being an operator.

34. (Previously Presented) The computer readable medium of claim 33 wherein the operand is one of a constant numeric value, a variable, a logic value, a function, and a string; and wherein the operator is one of a numeric operator and a logic operator.

35. (Previously Presented) The computer readable medium of claim 33 wherein the operand and the operator are arranged in the product rate expression following one of post-fix, pre-fix, and in-fix notation.

36. (Previously Presented) The computer readable medium of claim 27 wherein the evaluating the at least one token to determine the product rate further comprises at least one of:

- performing a mathematical operation;

- performing a logical operation; and

- retrieving data from a multi-dimensional table of data stored in the cache.

37. (Previously Presented) The product rate calculation system of claim 1, wherein the database interface is further configured to load a new version of the product rate information into the product rate information cache, in response to the product rate information being modified, and wherein loading the new version of the product rate information into the product rate information cache reprograms the expression evaluation routine to use a new product rate expression when determining the product rate.

IX. EVIDENCE APPENDIX

None

X. RELATED PROCEEDINGS APPENDIX